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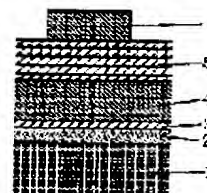
(72)Inventor : YOKOYAMA SEIICHI
 ITO YASUYUKI
 USHIKUBO MAHO
 KOBAYASHI MASAYOSHI

(54) MANUFACTURE OF DIELECTRIC THIN FILM AND DIELECTRIC THIN FILM MANUFACTURED BY IT

(57)Abstract:

PURPOSE: To lower the forming temperature of a dielectric thin film and to shorten the forming time of the thin film by maintaining the heating temperature of the thin film at a value which is very close to the temperature of crystallization of the thin film when very fine crystal nucleus are grown and crystallizing the thin film by heating the thin film at a temperature higher than the temperature of crystallization for a sufficiently long time.

CONSTITUTION: A thermally oxidized silicon film 2, a Ta film 3, and a Pt film 4 are formed on a silicon substrate 1 and a precursor solution containing the metal constituting a dielectric thin film is dropped onto and the surface of the lower Pt electrode 4 on the substrate 1 is spin-coated. Then the precursor solution is dried by baking the substrate 1 in the air by putting the substrate 1 on a heated hot plate. Then an upper Pt electrode 6 is vapor-deposited by heating the precursor at a heating temperature of 560-620° C by raising the heating temperature at rate of $\geq 20^{\circ}$ C/sec as first baking. After the electrode 6 is formed, a ferroelectric thin film 5 is formed by heating the precursor at a temperature of 730-800° C as second baking.



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